

Health and Safety Commission Paper		HSC/03/16	
<b>Meeting Date:</b>	14 January 2003	<b>Open Gov. Status:</b>	Partially open
<b>Type of Paper:</b>	Above the line	<b>Paper File Ref:</b>	
<b>Exemptions:</b>	The public version of this paper will have exempt material removed from paras 17-20		

## HEALTH AND SAFETY COMMISSION

### Proposed Physical Agents (Electromagnetic Fields) Directive

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#### Issue

1. The Danish Presidency of the European Union introduced a proposal for a Physical Agents (Electromagnetic fields) Directive on 17 December 2002. The Commission needs to advise Ministers on a negotiating line.

#### Timing

2. Urgent. The first meeting of the Council Working Group took place on 17 December and further meetings are scheduled for January.

#### Recommendation

3. That the Commission agree a broad negotiating line for submission to Ministers

#### Background

##### Physical Agents Directive

4. In April 1993 the European Commission published a proposal for a Directive on the minimum health and safety requirements regarding the exposure of workers to the risks arising from Physical Agents. A revised proposal was published in August 1994 to take account of European Parliament amendments.
5. The proposal set out a framework of harmonised requirements with specific provision in separate annexes for noise, vibration (hand-arm and whole body), optical radiation and

electromagnetic fields. Other agents could be added later. The annexes laid down a series of levels of exposure above which action had to be taken by employers, including risk assessment, measurement and preventive and control programmes and provision of personal protective equipment and health surveillance.

6. In 1993 the Commission advised Ministers that the proposal was not necessary and should be withdrawn pending further study of its impact. Failing this, the scope of the proposal should be restricted to vibration and preferably to hand-arm vibration. Ministers accepted the Commission's advice (paper HSC/93/74).

7. The proposal was presented to the Council Social Questions Working Group in 1994 and the UK was not alone in opposing it. Although Member States' views of the proposal diverged, there was far from universal support for it with some opposing certain parts of the proposal and others its presentation and scope.

#### Vibration Directive

8. As a result there was no further formal activity on the proposal until 1999 when the German Presidency suggested that the agents should be taken sequentially in separate Directives and they put forward a proposal for a vibration Directive. The vibration Directive has now been adopted and we are working towards implementation by July 2005.

#### Noise Directive.

9. The Swedish Presidency then introduced a proposal for a noise Directive in January 2001. Negotiations have been completed and the Directive was adopted on 9 December 2002. This will repeal the existing 1986 Noise Directive (86/188/EEC).

10. The Council of Ministers and the European Parliament have issued a statement that they intend to press ahead with proposals on the two remaining physical agents (electromagnetic fields and optical radiation) and the Danish Presidency have now introduced the proposal (attached at Annex A) on electromagnetic fields.

#### Electromagnetic Fields

11. Electromagnetic fields (EMFs) are a form of radiation. EMFs can interact with people but the interaction is complex and varies according to the frequency of the radiation. There are well defined symptoms of acute exposure. At low frequencies, induced currents can cause effects on the function of the central nervous system and at high frequencies there can be both whole body and localised heating leading to a rise in body temperature. These well established acute effects will only occur as a result of intense exposure and are extremely rare. They will not occur in people during their day to day living and should not occur at work.

12. EMFs arise whenever electrical energy is used. In general electricity supply and electrical goods generate low frequency EMFs and communication devices and transmitters generate high frequency EMFs.

In our homes EMFs arise, for example, from:

- the electricity supply to the home
- radios, TV, CD players and computers
- electrical appliances in the kitchen such as microwave ovens and electric kettles
- mobile phones;

at work from processes such as:

- industrial plastic welding machines
- radiofrequency heating and drying
- diagnostic equipment in hospitals;

and in the world at large from

- electricity generation and supply, including overhead power lines
- electric trains and the associated power supply
- radio and TV broadcasting masts
- security detection devices in shops and airports.

### Control of exposure

13. There is no legislation specific to EMFs. The general duties to assess and control risks contained in the Health and Safety at Work etc Act 1974 and the Management of Health and Safety at Work Regulations 1999 apply. In general, control is exercised by compliance with international and national guidelines for restrictions on exposure.

14. The main international guidelines are those published by the International Commission on Non-ionising Radiation Protection (ICNIRP) and in the UK those from the National Radiological Protection Board (NRPB). There is no essential difference between the two sets of guidelines for occupational exposure. Both sets of guidelines are designed to protect people from the acute effects of exposure. They define what are called 'basic restrictions' which are essentially exposure limits on induced current density or energy absorption in the body. These basic restrictions are set at a level well below that at which adverse effects might be expected. But current density and energy absorption in the body cannot be measured directly. So another set of figures are used that ICNIRP calls 'reference levels'. These figures represent the external electromagnetic field strengths produced by the source and they can be measured.

15. If the measured field strengths are lower than the appropriate reference level it means that the basic restriction has not been exceeded and no further action is necessary. If however, they are greater than the reference level, then the basic restriction may or may not have been exceeded. In this case, further investigations need to be carried out.

### **The Danish Presidency proposal**

16. The proposal (at Annex A) introduces the ICNIRP guidelines within a Directive framework much influenced by the agreed Noise and Vibration Directives. Hence the reference levels become action values, and the basic restrictions limit values. It eschews the European Commission's 1993 proposal for a hierarchy of action values below the reference levels. However, like the Noise and Vibration Directives, it introduces

provisions on risk assessment, control of exposure, health surveillance and information, instruction and training.

## Argument

17. → ←

→ ← **These paragraphs are being withheld under Exemption 2 of the Code of Practice on Access to Government Information.**

## Consultation

21. We are advising appropriate Government Departments, the CBI, the TUC and the Small Business Forum of the proposal **[not yet done but CBI are probably aware]**. We have also compiled a database of appropriate stakeholders who will be consulted.

## Presentation

22. Since the Danish text is an amendment to the Commission's 1993 Physical Agents proposal, rather than a new European Commission proposal, it will not be published and will be subject to Council confidentiality requirements. The Commission cannot therefore undertake a formal consultation. Nevertheless, as with the previous Vibration and Noise Directives, HSE will consult informally and make successive texts available.

## Costs and Benefits

23. HSE undertook a cost-benefit analysis of the EC's 1994 amended proposal for a Physical Agents Directive. The costs were between £51.5 – 76.5 million for the first year, and between £181.5 – 316.5 million over ten years. However, these costs reflected the hierarchy of lower action values now deleted from the proposal. No benefits could be identified. A Regulatory Impact Assessment of the new proposal will be produced shortly and the Commission informed.

## Financial/Resource Implications for HSE

24. Costs falling to HSE will include:

- Attendance of HSE officials at EU meetings to negotiate the Directive.
- Development of regulations and guidance to implement the Directive if adopted.
- Enforcement of regulations.

These costs have already been incorporated in existing staff and financial allocations.

## **Environmental Implications**

25. The proposed Directive, if adopted, is not expected to have an environmental impact.

## **Other Implications**

26. None

## **Action**

27. The Commission is invited to agree a broad negotiating position. We will submit the Commission's agreed negotiating position on the Directive to Ministers and will keep the Commission informed of subsequent developments.

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